

Crystal structure of DsrEFH from *Allochromatium vinosum*

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The *dsrEFH* genes are part of the *dsr* (dissimilatory sulfite reductase) operon of the anoxygenic phototrophic sulfur bacterium *Allochromatium vinosum*. The *dsr* gene products are essential for the oxidation of sulfur stored in intracellular sulfur globules in this organism. The polypeptides DsrE, DsrF and DsrH are homologous to each other. From *A. vinosum* they are isolated as a soluble a₂b₂g₂-structured holoprotein with an apparent molecular mass of 75 kDa [1]. DsrE and DsrF are the prototypes of a family of conserved proteins domains (COG 1553, 2044, 2923). DsrH is the prototype of yet another family of conserved proteins found in bacteria and archaea (COG 2168) but also fits into the DsrE/F family. In our effort to dissect functions of the proteins encoded at the *A. vinosum dsr* locus we have determined the three dimensional structure of DsrEFH by X-ray crystallography at 2.6 Å resolution to a crystallographic R-factor of 20.5 % and free R-factor of 25.5%.